REMARKS/ARGUMENTS

Claims 1-14 are pending. In the outstanding Official Action, Claims 1-4, 6-11, 13, and 14 were rejected under 35 USC 103(a) as being unpatentable over USP 5,699,121 to Zakhor et al. in light of official notice; and Claims 5 and 12 were rejected under 35 USC 103(a) as being unpatentable over Zakhor et al. in view of USP 5,805,737 to Abe. Applicants respectfully traverse.

Briefly recapitulating, the present invention (claim 1) is directed to an image encoding device including, among other things, conversion means for converting coding target blocks within a coding target image into conversion information; and encoding means for generating compression data by encoding quantized conversion information based on the size of the blocks, and for generating a compression code used to generate the compression data. The encoding means *encodes the quantized conversion information based on a plurality of sizes of the blocks, and generates the compression code corresponding to each size of the blocks. The block size and compression code corresponding to the lowest bit rate is included in header information.*

As a consequence of this configuration, the bit rate of compression data can be reduced as a compression code corresponding to an optimal block size for every coding target frame, and can be communicated via the header to the decoder. See the Specification, page 32, line 5 - page 33, line 1.

Claim 3 is directed to the analog encoding method of claim 1. Claim 7 is directed to a computer readable medium encoded with computer executable instructions for encoding an image according to the method of independent claim 3.

Claim 8 is directed to an image decoding apparatus including a decoding means for decoding block size information included in a header, and for generating quantized conversion information by decoding compression data based on the decoded block size

information. Claim 10 is directed to the analog decoding method of claim 8. Lastly, claim 14 is directed to a computer readable medium encoded with computer executable instructions for decoding an image according to the method of independent claim 10.

The Zakhor et al. patent discloses in column 4, lines 50-58 that, in the prior art, a DCT coder was known to process a motion residual signal which is segmented into blocks of data having a N x N size. In the prior art, the input matrix and the output matrix have the same size, for example, 8 x 8.

The Zakhor et al. patent teaches in column 4, lines 59-61 that it does not use a DCT coder. Instead, Zakhor et al. use a pattern matcher 60 and an atom coder 100. The paragraph bridging columns 4 and 5 of the Zakhor et al. patent teaches that the pattern matching approach stands in contrast to the "complete basis" approach used in a DCT operation because the coefficients used to characterize and code the selected input pattern are chosen from a large collection of functions. Each coefficient using the pattern matching approach is believed by Zakhor et al. to be more effective in representing the true patterns and the residual signals.

Column 6, lines 26-37 of Zakhor et al. discloses that the atom coder 100 performs known quantization and variable length coding operations. In particular, Zakhor et al. teach that the variable length coding is used to assign short bid patterns to signals with high probability of occurrence and longer bid patterns to signals with a lower probability of occurrence.

In contrast to Zakhor et al., the present invention (claim 1) encodes the quantized conversion information based on the size of the blocks used to segment the frame. The encoding means encodes the quantized conversion information based on the plurality of sizes of blocks, and generates a compression code corresponding to each size of the blocks. The block size and compression code corresponding to the lowest bid rate is included in header

information. Because Zakhor et al. relies upon a pattern matching process in lieu of using a block based system, the Zakhor et al. patent fails to teach or suggest generating compression data by encoding the quantized conversion information based on the size of the blocks. Further, the Zakhor et al. patent fails to teach or suggest generating the compression code corresponding to each size of the blocks or transmitting in a header the block size and compression code corresponding to the lowest bit rate. As taught by the Zakhor et al. patent in column 6, lines 29 and 30, the number of bits used by Zakhor et al. is a function of the rate and quality requirement of the video system, and thus is not a function of the block size as required by the present claims.

The Official Action takes official action on pages 3 and 4 that using header information is well known in the art of coding. Applicants respectfully request a prior art teaching showing that to be the case. Without such a reference, Applicants are unable to determine whether a prima facie case of obviousness has been established by the Office Action.

Abe is relied upon in the Office Action for teaching a feature unrelated to the subject matter discussed above and is not believed to remedy the deficiencies of Zakhor et al.

Thus, Zakhor et al. are not believed to anticipate or render obvious the subject matter of the present invention (claims 1, 3, 7, 10, and 14) when considered alone of in combination with the applied secondary references. The dependent claims are believed to be allowable for at least the same reasons that their respective independent claims are believed to be allowable.

In view of the present amendment and in light of the above discussions, it is believed that the outstanding rejection is overcome, and the application as amended herewith is

believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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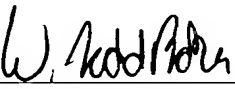

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